WEIL-McLAIN

SGO
Oil-Fired
Steam Boiler
with tankless opening

an ISO 9001 Certified Company

SGO
GOLD Series 3

OIL–FIRED Steam BOILER
WITH TANKLESS HEATER OPENING



Ratings — (8 sizes)
354 – 921 SQ FT NET STEAM
0.95 – 2.55 GPH #2 FUEL OIL

- **Specifically designed for steam**
  Large water content: longer steaming times
- **High efficiency**
  Save fuel with 85% & higher AFUE
- **Convertible flue (rear/top)**
  Easy switch from rear to top flue
- **Swing-away burner door**
  Easy to open or remove; full access to chamber
- **Easy inspection & cleaning**
  Quick-open cover; top cleaning full width
- **Factory-wired circulator**
  Circulator harness wired; circulator ships loose
- **Service switch**
  Easy power disconnect for servicing boiler
- **Recessed target wall**
  Design protects target wall from flue brush
- **Captured seal nipple port design**
  Grooves protect seals from contaminants
- **Burner shipped separately**
  . . . for maximum flexibility



WEIL-McLAIN ... Heating America!



Presenting . . . the Weil-McLain **SGO GOLD** — a residential oil-fired steam boiler, designed specifically for steam systems — with a tankless heater opening, large water content, long steaming time, large tappings (2½"), and all the features installers and homeowners have asked for — **Outstanding performance . . . innovative design . . . easier to install and service . . . top or back venting . . . limited lifetime warranty . . .** just a few of the advantages that make the SGO GOLD boiler the industry's best value. And best of all, the SGO GOLD boiler is made by Weil-McLain, America's leading name in cast iron boilers for over a century.

The SGO GOLD is available packaged or knockdown. Burners are ordered and shipped separately — to give you maximum flexibility. Use any of the approved burners from Weil-McLain, including Beckett AFG, Carlin EZ and Riello.

P-SGO *Packaged* — Factory assembled and wired with jacket and controls (SGO-2 through -6).

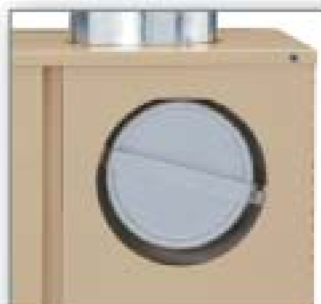
A-SGO *Knockdown* — Factory assembled sections with jacket installed (except A-SGO-7, -8 & -9), controls packed separately (SGO-2 through -9). A-SGO-7 through A-SGO-9 blocks are skidded for shipment. For easier handling, these units can be separated into two blocks since short draw rods are used in the middle of the assembly.

Convertible flue (rear or top)



As shipped (rear flue)

The SGO has two flue outlets — one in back, one on top — to provide complete venting flexibility. The boiler is shipped ready for back venting with an aluminized steel cap on the top flue outlet. If top venting is desired, the flue cap can be quickly removed and attached to the back outlet. Two special L-brackets are supplied to make it easy to connect flue pipe to either outlet.



Converted (top flue)

Easy inspection/top cleaning



Flueways can be visually inspected without taking apart the vent pipe by removing the jacket cap and flue outlet cap from the unused flue outlet.

Removing the flue collector hood provides complete access to all flueways for fast, thorough cleaning. And the placement of the heat pins provides specific paths for flue brush travel. No stuck brushes!



OIL–FIRED Steam BOILER SGO

WITH TANKLESS HEATER OPENING

Swing-away burner door/recessed target wall



The full swing-away burner door provides easy access to the entire combustion area to simplify inspection, cleaning and burner servicing. If desired, the door can be easily removed from the hinges. A quick-disconnect plug breaks power to burner when door is open.

The SGO target wall fits securely into the recess in the wide back section. Flue brushes can't contact the target wall because of the unique rear section heat exchanger design.



Cast iron sections/captured seals



- Rely on SGO boilers — SGO boilers use cast iron sections, proven for durability and long life. Weil-McLain boilers have often provided 35 years or more of reliable service.
- The SGO's heat pin design yields high efficiency, yet is more tolerant of varying job conditions and makes cleaning faster and easier.
- High-temperature rope compressed between the sections makes a gas-tight seal in the flueways.
- Weil-McLain captured seal — Boiler sections want room to move as they heat and cool. The SGO's modern elastomer seals provide the ultimate freedom for the cast iron to flex (unlike rigid metal push nipples), preventing leaks caused by expansion and contraction. And the precision–machined port grooves secure the seals in place and protect them from contaminants in the water.

High-capacity tankless heater option



You can purchase a Weil-McLain high-capacity tankless heater and tankless temperature control for use in the SGO GOLD boiler.

The side-mounted dual-coil design of the Weil-McLain tankless heater provides exceptional performance.

Weil-Mclain's tankless temperature control design allows operation of the tankless heater throughout the year — maintaining hot water in the boiler without producing steam when there is no space heating demand from the system.

Ratings

Boiler model number	I=B=R burner capacity	DOE heating capacity MBH		Net I=B=R ratings Notes 3 & 5			DOE seasonal efficiency % AFUE		Tankless heater intermittent draw	Draft loss through boiler	Minimum I=B=R chimney size		
	GPH	Notes 2, 3, 4		Steam		Water				Inches w.c.	Rectangular	Round	Height
	Note 1	Steam	Water	SQ FT	MBH	MBH	Steam	Water	GPM (Note 6)	Note 7	inches	inches	feet
*-SGO-3-**	0.95	114	115	354	85	100	84.1	85.3	3.25	.020	8 x 8	6	15
*-SGO-4-**	1.20	144	145	450	108	126	84.0	85.0	3.75	.010			
*-SGO-5-**	1.45	174	175	546	131	152	83.9	85.0	4.00	.015		7	
*-SGO-6-**	1.75	210	212	658	158	184	83.7	85.0	4.25	.015			
*-SGO-7-**	2.00	240	242	750	180	210	83.6	85.0	5.50	.015		8	
*-SGO-8-**	2.30	266	268	833	200	231	—	—	5.75	.020	8 x 12		20
*-SGO-9-**	2.55	295	296	921	221	257	—	—	6.00	.030			

* Substitute "P" for package steam boiler (SGO-3 through SGO-6 only — Packaged water boiler not available). Substitute "A" for boiler only.

** Add "W" for SGO boiler with water trim.

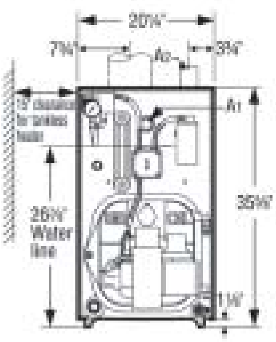
1. No. 2 fuel oil — Commercial Standard Spec. CS75-56. Heat value of oil — 140,000 BTU/Gal.
2. Based on standard test procedures prescribed by the United States Department of Energy at combustion condition of 13½% CO_2 and -0.02" W.C. draft.
3. MBH refers to thousands of BTU per hour.
4. Rating under "DOE Heating Capacity" for SGO-8 and -9 is I=B=R gross output. DOE ratings do not apply to boilers above 300 MBH.
5. Net I=B=R ratings are based on net installed radiation of sufficient quantity for the requirements of the building and nothing need be added for normal piping and pickup. Steam ratings are based on a piping and pickup allowance of 1.333; water ratings on an allowance of 1.15. An additional allowance should be made for unusual piping and pickup loads. Consult a Weil-McLain representative.
6. All boiler sizes use number 35-S-29 tankless heater. Tankless heater rating is in gallons water per minute, heated from 40°F to 140°F with 200°F boiler water temperature — tested in accordance with I-W-H Testing and Rating Standard for Indirect Tankless Water Heaters Test with Boilers.
7. Listed draft losses are for standard burner settings.

Dimensions

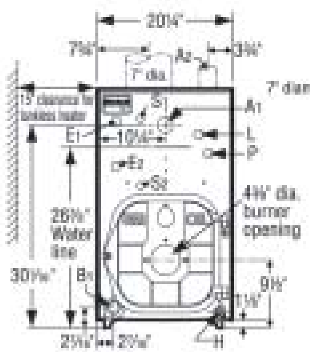
Boiler model number	Supply "C" (inches)		Return (inches)		Dimensions (inches)			Approximate shipping weight	Tankless heater # 35-S-29
	Steam	Water	Steam	Water	A	B	L	(lbs) (Note 1)	Tappings
SGO-3	1–2 ½	1–1 ½	2	1 ½	–	13 ⅛	16 ⅝	600	Inlet and outlet ¾" NPT Temperature control tapping ¾" NPT
SGO-4					–	16 ⅝	20	705	
SGO-5					–	19 ⅝	23 ⅛	820	
SGO-6	2–2 ½	1–1 ½	2	1 ½	19	23	26 ⅛	920	
SGO-7					22 ⅛	26 ⅛	29 ⅝	990	
SGO-8					25 ⅛	29 ⅛	32 ⅝	1,080	
SGO-9					28 ⅝	32 ⅝	35 ⅝	1,195	

Crate Dimensions: Height – 39 Width – 23 Length (*SGO-3, -4) – 37 / (*SGO-5, -6) – 43

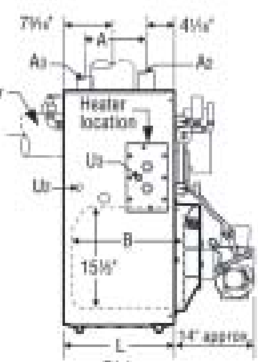
Note 1. Weights based on P-SGO units 3 – 6 and A-SGO units 7 – 9 with all components including burner.



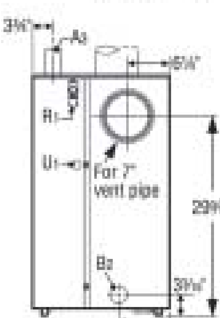
P-SGO Front



A-SGO Front



Side



Back



Intermediate

Tapping	Size	Steam	Water
A_1	1½	Skim tapping	Supply
A_2	2½	Supply	Piping to expansion tank or automatic air vent
A_3	2½	Supply (SGO-6 thru 9)	Plugged
B_1	1½	Plugged	Return
B_2	2	Return	Plugged
E_1	¾	Pressure gauge & limit control (when probe LWCO is used)	Pressure/temperature gauge
E_1 & E_2	1	Low water cutoff (float-type)	—
H	¾	Drain valve	Drain valve
L	¾	Pressure gauge & limit control (when float LWCO is used)	High limit/circulator control
P	¾	Low water cutoff (probe-type)	Plugged
R_1	¾	Relief valve	Relief valve
S_1 & S_2	½	Gauge glass	Plugged
U_1	1	Take off for indirect-fired water heater or separate zone	Plugged
U_2	¾	Tankless heater operating control (SGO-6 thru 9)	Plugged
U_2*	¾	Tankless heater operating control (SGO-3 thru 5)	Tankless heater operating control

Equipment

Standard Equipment, All units

- Limited 10-year warranty on boiler sections
- Factory tested
- Factory-assembled cast iron sections with the following parts installed. (Jacket and collector hood are not assembled on 7-, 8- and 9-section blocks.)
  - Insulated steel jacket
  - Aluminized steel flue collector hood with flue cap on top outlet
  - Swing-away burner mounting door
  - Refractory blanket and target wall in combustion area
  - Heater opening cover plate
- Electrical junction box with wiring harnesses
- Junction box cover plate with service switch
- Two vent pipe brackets
- Drain valve
- Balanced draft damper

SGO steam boilers

- High limit pressure control
- Low water cutoff (float or probe type) — P units only
- 15 PSIG ASME safety valve (boiler sections tested for 15 PSIG steam working pressure)
- Steam pressure gauge
- Siphon
- Gauge glass, cocks and guard

SGO-W water boilers

- Built-in air separator
- High limit control with circulator relay
- Pressure/temperature gauge
- 30 PSIG ASME relief valve (boiler sections tested for 50 PSIG working pressure)

Optional Equipment

- High-efficiency flame-retention oil burner (Beckett AFG, Carlin EZ or Riello). Specify 2-stage fuel unit (optional) if required.
- Low water cutoffs (float or probe type)
- Tankless heaters and controls
- Weil-McLain 5-year or 10-year Homeowner Protection Plan
- Weil-McLain Indirect-Fired Water Heaters

In the interest of continual improvements in product and performance, Weil-McLain reserves the right to change specifications without notice.

WEIL-McLAIN

Locate our Sales Offices by visiting our website:
www.weil-mclain.com

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